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SOME UNSOLVED PROBLEMS IN MEXICAN ARCHEOLOGY

By ZELIA NUTTALL

I

INTRODUCTION

The admirably clear and comprehensive address on the History of Anthropology, read by Prof. Franz Boas at the International Congress of Arts and Sciences held at St Louis in September, 1904, could not but be of special interest to Americanists, for during its course he traced their different methods and theories, their struggles and points of view, past and present, and with rare impartiality touched as follows on the long-continued and still active "controversy as to the independent origin of transmission of certain widespread cultural traits, from one part of the world to another."

"To those investigators who advocate the theory of independent origin, the sameness of cultural traits was assumed as a proof of a regular, uniform evolution of culture; as representing the elementary idea which arises from necessity in the mind of man and which cannot be analyzed as the earliest surviving form of human thought. They would exclude the consideration of transmissions altogether, believe it to be unlikely, deem the alleged proof irrelevant and ascribe sameness of cultural traits wholly to the psychic unit of mankind and to the uniform reaction of the human mind upon the same stimulus.

"On the other hand, Friedrich Ratzel, whose recent loss we lament, inclined decidedly to the opinion that all sameness of cultural traits must be accounted for by transmission, no matter how distant the regions in which they are found.

"Side by side with these two views exists a third, represented by Gerland and a minority of investigators, namely, that such cultural traits are vestiges or survivals of the earliest stages of a generalized human culture."

After recording the above conflicting views, Professor Boas justly observes :

“It is evident that this fundamental question cannot be settled by any amount of discussion of general facts, since the various explanations are logically equally probable. It requires actual investigation into the individual history of such customs to discover the causes of their present distribution.”

It was doubtless intentional on the part of the organizers of the Congress that the two addresses by foreign speakers which followed that of Professor Boas were by equally distinguished extremists holding radically opposed views concerning the origin of ancient Mexican and Central American civilizations, viz., Sr Alfredo Chavero, of Mexico, who assumes transmission, and Prof. Eduard Seler, of Berlin, who upholds autochthony.

The presentation, at a single session, of the problem as seen from two different standpoints, naturally raised, in the minds of unbiased investigators (with which I venture to class myself), the question whether it is not premature to so positively deny or affirm the autochthony of these ancient civilizations.

As far as ancient Mexico is concerned, it is my experience, for instance, that even after twenty years of study I have barely penetrated its vast field of investigation, and that the more I explore its untrodden paths and discern its multifarious contradictory and perplexing features the less I am inclined to formulate definite conclusions concerning the point at issue. Frequently the discovery of unknown or unworked material, or the unexpected results obtained by the pursuit of a fresh line of research, oblige students in our comparatively unexplored field to alter or at all events to readjust their views or working hypotheses.

It has thus happened that my recent reëxamination of certain correlated facts by the light of fresh knowledge has confirmed me in my desertion from the comfortable autochthonistic point of view. While I can understand the attractions and advantages of the latter, I cannot understand how any one acquainted with the said group of facts can assert off-hand, as some extremists do, that no authentic evidence has been met with in Mexico or Central America which, even remotely, seriously suggests ancient foreign influence or contact. While it is inevitable that radical differences of opinion will be evoked concerning the interpretation to be placed upon them, I

must believe that no unbiased reader, after examining the facts I am about to set forth, will deny their authenticity, interest, or claim to serious consideration.

MONTEZUMA'S EVIDENCE AS TO HIS ANCESTRY AND ORIGIN

Even the most extreme autochthonists will surely admit that no authority on the question of their own history and origin could be higher than that of a member of what Dr Albert Réville describes as "the firmly-organized Mexican priesthood in which was centered the whole intellectual life and all that can be called the science of Mexico."

The highest value must therefore be assigned to the utterances of Montezuma, the high-priest and ruler, concerning his ancestry and origin, as translated by Doña Marina to Cortés and his companions. Cortés, whose acumen no one denies, reported Montezuma's words to the Emperor Charles V in his well-known second letter written from Villa Segura de la Frontera, October 30, 1520. The following is a careful literal translation of the discourse addressed by Montezuma to the Spaniards assembled in his palace, as reported by Cortés :

"For a long time and by means of writings, we have possessed a knowledge, transmitted from our ancestors, that neither I nor any of us who inhabit this land are of native origin.

"We are foreigners and came here from very remote parts. We possess information that our lineage was led to this land by a lord to whom all owed allegiance [vassalage]. He afterward left this for his native country and returned again, but after so long an absence that, meanwhile, those who had remained behind had married native women, had raised large families and built towns in which they lived. When he wished to take them with him they not only declined to go, but refused to acknowledge him as their lord.

"Consequently he left without them, returning whence he came, but we have ever believed that his descendants would surely come here to subjugate this land and us who are, by rights, their vassals.

"Because of what you say concerning the region whence you came, which is where the sun rises, and because of the things you relate about the great lord or king who sent you thence, we believe and hold as certain that he must be our rightful [natural] lord, especially since you say that, for a long time past, he has known about us. This much you may be cer-

tain of: that we will obey you and hold you as lieutenant of this great lord of whom you tell us, and this we will do without fail or deceit. And, throughout this land, that is to say, in all of it that I possess by virtue of my lordship, you can command at your will, for you will be obeyed. All that we possess is at your disposal, and since you now are in what rightfully belongs to you, and in your own house, take your ease and rest from the fatigues of your journey and of the wars you have gone through. . . . Neither you nor your people will receive harm, for you are in your own house and that which is rightfully yours. . . .”

After the above Cortés writes :

“I replied to all he said, satisfying him, which seemed expedient, especially making him believe that it was Your Majesty whom they had been expecting. . . .”

The above statements by Montezuma are strikingly corroborated by his subsequent harangue to the assembled native chieftains, in which he appealed, without contradiction, to their familiarity with the fact of his ancestry and origin, in the following terms :

“MY BROTHERS AND FRIENDS : You already know that, for a long time past, your fathers and grandfathers have been subjects and vassals of my predecessors, just as you now are my subjects and vassals. You and yours have always been and are still treated well and honorably by us, and you, for your part, have fulfilled the obligations of good and loyal vassals toward their rightful lords.

“I also believe that your own ancestors must have handed down to you the record that we are not natives of this land but came to it from another very distant country, led by a lord. . . . When he returned after a long absence and found that our grandfathers would not accompany him nor accept him as the lord of the land, he departed, leaving word that he would return or send some one with such authority and power that they would be constrained and forced back into his service. And you well know that we have always expected this lord, and now, from what the Captain has told us of the king and lord who sent him here and because of the region from which he says he came, I hold it for certain and you should do the same, that this king is the lord we expected, especially as he tells us that over there they have long had information concerning us. And since our ancestors did not fulfil their obligations to their rightful lord, let us now fulfil ours and render thanks to our gods that that which was long expected, in vain, by our predecessors, has come to pass in our days. I entreat you much, since all of this is well known to you, to

henceforth acknowledge and obey this great king just as you have hitherto acknowledged and obeyed me. For he is your natural sovereign, and as his lieutenant here is his captain, render to him all service and tribute, such as you have given me, for I also must henceforth contribute and serve in all that is ordered me.

“ In doing as I beg you to, you will give me much pleasure besides fulfilling what is your obligation and duty.”

Cortés continues :

“ All of which he [Montezuma] said weeping, with as many sighs and tears as a man could possibly bring forth ; and all those lords who heard him also wept so much that, for a long while they were unable to give him their answer. . . . When their weeping had abated they answered ‘ that they held him as their lord and had promised to do all that he ordered, and for this reason and *also because of that which he had given them*, they would cheerfully do his bidding.’ Henceforth and for always they gave themselves as vassals to Your Highness, and first together and then each one separately they promised to do and fulfil, like good and loyal vassals, all that would be ordered them in Your Majesty’s royal name. They also assumed the obligation to render unto you the tribute and service which were formerly given to Montezuma, and to do everything that would be commanded in your name.”¹

Montezuma’s assumption that his native hearers were familiar with the history of his foreign ancestry is further proven to have been absolutely true by authentic native testimony of utmost importance. We are indebted for this to the distinguished Spanish friar, Bernardino de Sahagun, who came to Mexico in 1529 and lived there until his death, more than sixty years later.

At one time Sahagun assembled the oldest and most learned inhabitants of Texcoco, who dictated to him, in the Nahuatl language, all that they knew concerning their ancient history and traditions.

While at Florence, some years ago, I copied the original Nahuatl notes preserved in the Laurentian Library, from which Sahagun subsequently made the somewhat abridged translation that has been published as his *Historia de Nueva España*. Within the last year I had the interesting experience of showing the Nahuatl text relating to the origin of the Mexicans to one of the best living Nahuatl

¹ Ed. Lorenzana, pp. 81, 96.

scholars, Sr Manuel Rojas, a descendant and the oldest representative of the ancient caciques of Tepoztlan, state of Morelos. At my instance Señor Rojas made a literal translation of this text into Spanish, which I subsequently carefully collated with the original and with Friar Sahagun's Spanish version. The following is a brief rendering of the main facts recorded in the Nahuatl text and in the two independent translations into Spanish, the last one made after an interval of about three and a half centuries :

“The Mexicans are foreigners, for they came from the province of the Chichimecs, and the following is what there is to relate about them :

“Countless years before the arrival of the Spaniards the ancestors of the Mexicans arrived in boats and disembarked, ‘in the north’, at the port named Panoaya, or Panuco, north of the present port of Veracruz. Under the guidance of their high priest, who carried with him an image of their god named Tloquenauaque (lit. ‘the All-embracing One’), which he consulted as an oracle, they traveled inland and founded a town named Tamoanchan, where they lived peacefully for a long time. With these colonists came wise men or diviners who were versed in the written or painted books. These wise men and their leader or high priest did not remain permanently with the colonists, but, leaving them settled in Tamoanchan, reëmbarked in boats and departed eastward, carrying away with them their bundles and their painted books relating to their ritual and to their knowledge of mechanical arts (*tultecaiotl*).

“Before leaving they made the following memorable address to those whom they were leaving behind them : ‘It is the will of our lord, the All-embracing One, the Night, the Air, that you are to live here in the land in which we came to leave you. He bestows it upon you . . . here you are to live and guard what has been given to you. . . . He goes and we go with him, but truly he will return to rescue and succor you (*maquixtiquiuh*) ; to teach or guide you (*machtiquiuh*), and to determine the limits or boundaries of the land. . . .’

“Then the divine regents or governors (*teomamaque*) departed with their wrapped bundles. . . . Four aged wise men remained behind, and, assembling, said : ‘During the absence of our lord, what method must we adopt in order to rule the people well? What order is to be instituted, now that the wise men have taken with them the painted books according to which they governed?’ Then they composed the count of nativity signs or celestial luminaries, the year book, the year count, and the book

of dreams,¹ and these remained in use as long as governed the lords of the Toltecs, the Tepanecs, the Mexicans, and the Chichimecs . . . it is not known how long these governed.

“This was, however, recorded by paintings, but these were burnt in the time of the lord Itzcoatl of Mexico, because the lord and princes of that time agreed that it was not expedient that all persons should know such things and that these books should fall into the hands of those who might treat them with contempt or disrespect.”²

The text further relates that from Tamoanchan the colonists went to Teotihuacan, where they built the two great pyramids the ruins of which still exist. The above narrative, which was dictated at their leisure by the Texcocan elders, who could scarcely have been informed of the contents of Cortés' letter to Charles V, will be found to agree substantially with Montezuma's words.

Further corroboration of his evidence is furnished by another text dictated by the Texcocans to Sahagun, namely, that of the fine address of welcome delivered by Montezuma, in the presence of a multitude of hearers, when he first met the Spaniards. It completes the native verbatim reports of Montezuma's utterances that have been preserved, and for dignity of expression and beauty of language is one of the finest specimens of native discourse that has been preserved :

“Oh, our lord, be welcome ! You have arrived in your country, your town, and your house, Mexico. You have come to seat yourself on your throne and in your chair which I have been occupying for some time in your name. Other lords, who now are dead, occupied it before me. Their names were Itzcoatl, Moctezuma the Elder, Axayacatl, Tizoc, and Ahuizotl. I, the last of them all, came to be the one to have the care and governing of your town, Mexico. We all in turn have borne on our shoulders the burden of your republic and your vassals. Would that some of those who have departed and cannot see or know what is happening, were living now and that what is now happening had taken place in their time. But, our lord, they are absent, and with my own

¹ The above is an exact literal translation of Friar Sahagun's Nahuatl text of the passage which, after a lapse of thirty years, he freely rendered into Spanish as follows : “ They invented judicial astrology, the art of interpreting dreams, and composed the count of the days, of the nights, of the hours, and the differences of times [seasons]. ” — Book x, chap. 29, ¶ 11.

² *Ibid.*, ¶ 12.

eyes, without being either asleep or dreaming, I behold your face and your person. For many days have I expected this, and my heart has been going out toward the regions whence you have come, from the place which is hidden to all and is behind clouds and mists. I now see that it was true what the departed lords left word with us: that you would return to reign in these realms and would seat yourself on your throne and in your chair. Be welcome! Rest now after the labor you have had in coming such long ways. This is your house and these are your palaces—take them and rest therein with your captains and the companions who have come with you.”¹

My quotation of the above texts in full, notwithstanding the repetitions they contain, is excusable for the reason that, collectively, they constitute the most authentic and valuable testimony we possess concerning Montezuma's origin and ancestry.

It will be seen that the name Quetzalcoatl does not appear in any of these, the earliest texts; nor do they contain any reference of a religious or superstitious nature to the sun or to any deity excepting “the All-embracing One” and “our gods.”

It is my belief that it would scarcely occur to any one, on reading the above texts for the first time, to interpret Montezuma's account of his ancestry as a solar myth, or to identify the reputed leader of the colonists as a “solar god” or “dawn hero.”²

Yet, notwithstanding the incongruity of certain details recorded (as, for instance, the fact that, *unlike the sun, the solar god took his departure toward the east*), the current belief is that Montezuma narrated “the Quetzalcoatl myth”³ to the Spaniards and that he sacrificed himself and his people to a foolish superstitious belief in an imaginary god or hero. It seems strange that, if this was actually the case, the astute Cortés did not simply inform the emperor that Montezuma had recounted to him “a ridiculous fable about their gods,” a phrase often used by his contemporaries in speaking of native religious myths. And what is stranger still, is that the keen-minded Friar Sahagun, who obtained a deep knowledge of the native religion and superstitions, writes naught about a connection

¹ Op. cit., book XII, ¶ 16.

² See D. G. Brinton, *Myths of the New World*, p. 186.

³ See H. H. Bancroft, *History of Mexico*, vol. I, p. 289.

between this historical tradition and a religious or solar myth. Nor does Bernal Diaz, who was present when Montezuma delivered his discourse and who described its contents from memory after a lapse of forty-eight years, mention the name of Quetzalcoatl or state that a fable or religious myth had been related.

It being impossible for me to attempt to trace here the evolution of the Quetzalcoatl myth, I cannot do more than to point out the facts that the ancient Mexicans, like ourselves, applied the word "lord" to the deity as well as to a superior, and that the name Quetzalcoatl, besides being the name of the Air-god, was also a title assumed by a certain grade of priesthood. Under such circumstances it was inevitable that a confusion of persons and titles should have been made and that Montezuma's testimony should have thus become invalidated and dismissed as irrelevant.

I cannot but think, however, that a careful and unbiased study of the above original texts, the Nahuatl version of two of which have hitherto been inaccessible to students, will convince others, as it has me, that Montezuma absolutely believed in the foreign origin of his ancestors and sacrificed his power and position to what might be termed a quixotic conception of his duty toward the rightful, though remote, sovereign of his people. The argument that he so successfully employed to persuade his subordinate chieftains to transfer their allegiance from him to Cortés, namely, that it was his and their duty to make amends for the insubordination and disloyalty of their forefathers toward their lord, while comprehensible if that leader was a real, though unpopular, personage, would seem singularly irrelevant in connection with mythology. Nor do any passages in the texts contradict, so far as I am able to see, the impression they so clearly convey that Montezuma's attitude toward the Spaniards was influenced by a plain historical tradition handed down from his forefathers.

Without entering here into a discussion of the problem whence the foreign colonists came to the eastern coast of Mexico, I will but emphasize the remarkable but undeniable fact that the strange language and appearance of the Spaniards and the distance of their journey across the ocean only confirmed Montezuma in his belief that these strangers came from the original home of his ancestors.

The hypothesis that these ancestors came to the eastern coast of the Gulf of Mexico from some other part of the American continent, from the peninsula of Yucatan, for instance, consequently involves the less plausible theory that Montezuma believed that the Spaniards also hailed from these adjacent and familiar regions. Whatever other interpretations may be put upon them, the foregoing data conclusively show that Montezuma, who, of all Mexicans, best knew the traditions of his race, believed that these furnished an overwhelming and positive proof that his line had originated in a land over the sea, as remote as Spain was said to be.

In conclusion, the problem here submitted for impartial judgment is, whether Montezuma's genuine belief in his foreign ancestry and its far-reaching influence on his actions merits, as I maintain, our serious consideration and acceptance as important historical evidence, or whether it deserves the treatment it has received from some champions of autochthony who either overlook it entirely or endeavor to eliminate it from the pages of Mexican history by denouncing it as irrelevant and valueless and fit only to be consigned to the nebulous realm of mythology.

II

THE ORIGIN OF THE ARTIFICIAL THEORY OF THE FOUR ELEMENTS

In Sahagun's original Nahuatl text, which is quoted in the preceding essay, the invention and the institution of the calendar and form of government which were in use at the time of the Spanish conquest of Mexico, as well of as the building of the great pyramids the ruins of which still exist, are attributed to the foreign colonists who were said to have arrived from the east in ancient times, in boats, and landed at Panuco on the coast of the Gulf of Mexico.

According to said text, it was after the departure of their leader that four elders agreed to institute a tetrarchy and devised the calendar as a means of regulating and controlling communal life.

Torquemada,¹ the Spanish historian, gives the following additional details concerning this episode :

“ These four lords jointly constituted the head of the government. Nothing could be done throughout the republic without the consent of all

¹ *Monarquía Indiana*, book XI, chap. 24.

four . . . they divided the city and province into four parts, forming four principalities or tetrarchies. . . .”

One of the most striking examples of a tetrarchy which existed in Mexico when the Spaniards arrived was the small republic of Tlaxcala.

An examination of the ancient Mexican calendar reveals its perfect accord with a tetrarchical system of government. Its twenty-day period is formed by four principal day-signs (which were also year-signs), each of which presided over four minor day-signs. Its solar cycle of $4 \times 13 = 52$ years was formed by the rotation of the four principal signs, representing a reed, a flint knife, a house, and a rabbit. These signs were symbolical of the four elements and were associated with the cardinal points and the sacred elemental colors: blue, red, yellow, and green.

In the center of the so-called Mexican calendar-stone, which exhibits a synopsis of the great tetrarchical plan or system of the native philosophers, symbols corresponding to the four elements are carved in an *ollin*, a quadruplicate sign which is employed in native pictography to express movement or motion. Resting on the hieroglyph for earth, this *ollin* signifies, for instance, an earthquake.

While the said sculptured monument thus demonstrates that the ancient Mexicans associated the united four elements with movement, i. e., life, their mortuary custom of clothing a dead chieftain in succession with perishable garments of the four elemental gods and their colors indicates a belief that death was a dissolution and return to the elements — earth, air, fire, and water.

Ever since the above indications came under my notice I have been deeply interested in the fact which they undeniably establish, namely, that the ancient Mexicans not only believed in the existence of the said four elements but also deified and symbolized them and incorporated them in their artificial system of government by means of an ingenious cyclical calendar.

To me the presence of this group of correlated ideas in pre-columbian America seemed very remarkable, strange, and perplexing, especially after I had investigated the evolution of the artificial theory of the four elements in other ancient civilizations.

On communicating some of the results of my investigations to

certain of my colleagues, I found that none shared my keen interest in the question, their view being the same as that expressed by Dr Daniel G. Brinton: "The simple theory that the world is composed of four elements, fire, water, air and earth, is one which presents itself so naturally to primitive thought that traces of it can be seen in most mythologies which have passed beyond the rudimentary forms."¹

According to my colleagues the tetrarchical form of government and the cyclical calendar were also only the natural products of the primitive mind.

I confess that, much as I respected the views expressed, they did not satisfy or convince me.

A prolonged investigation of the evolution of philosophical speculation had taught me that, for instance, in Greece the artificial doctrine of the four elements was not formulated until Greek philosophy had reached what George Henry Lewes designates as "the second epoch in its development, in which the failure of earlier cosmological speculations directed the efforts of the philosophers (i. e., Heraclitus, Anaxagoras, Empedocles, and Democritus) to the psychological problems of the origin and limits of knowledge."²

The following extracts from Lewes' writings furnish an outline sketch of the process by which, after several centuries of speculation, Greek thinkers evolved the identical "simple theory of the four elements" that, in ancient America, is said to have naturally presented itself to the primitive mind.

More than a century before the birth of Heraclitus, Thales (640-550 B. C.) had formulated the doctrine of a single original and eternal element—Water, the beginning of all things. To Anaximenes it was Air that seemed the very stream of life.

Diogenes of Apollonia adopted the tenet of Anaximenes respecting Air as the origin of things, but gave a wider and deeper significance to the tenet by pointing out the analogy of Air with the soul, or vital force, and thus opened the way to Anaximander of Miletus, the father of abstract and deductive philosophy and the first of the mathematicians to formulate the doctrine that not water, nor air, but the "Infinite is the origin of all things."

¹ *Religions of Primitive Peoples*, p. 141.

² *History of Philosophy*, vol. 1, p. 66.

Then followed the Eleatics, one of whom, Zeno, closes the second great line of independent inquiry opened by Anaximenes.

Heraclitus (b. 503 B. C.) conceived the doctrine of all things as a perpetual flux and reflux, and of Fire as the principle of all things. He affirmed Fire to be both the principle and the element — both the moving, mingling force and the mingled matter; and formulated the phrase: "Strife is the parent of all things."

Fire, which here stands as the semi-symbol of Life and Intelligence, because of its spontaneous activity, is but a modification of the Water of Thales and the Air of Anaximenes.

Anaxagoras proclaimed the All to be the Many and Intelligence [*Nous*] to be the moving force of the Universe which caused the mass of elements to become arranged in one harmonious, all-embracing system. "The *Nous* has moving power and knowledge . . . it initiates movement."

Drawing special attention to the fact that while vital importance was attached to "movement" by Anaxagoras, the central thought of Pythagorean philosophy is the idea of number. In his monograph on the subject¹ the Rev. G. Oliver quotes Philolaus, who says:

"Number is great and perfect, omnipotent and the principle and guide of divine and human life. Number is then the principle of order, the principle on which the Cosmos or ordered world exists. . . . The decade, as the basis of the numerical system, appeared to (Pythagoreans) to comprehend all other numbers in itself . . . also the number four because it is the first square number and is also the potential decade: $1 + 2 + 3 + 4 = 10$. Amongst the ten principia or fundamental oppositions formulated by the Pythagoreans are odd and even, right and left, male and female, light and darkness, etc."

According to Oliver it was Pythagoras who was celebrated as the "discoverer of the holy Tetraktos, the fountain and root of ever-living nature, or the Cosmos consisting of Fire, Air, Earth and Water, the four roots of all existing things."

Lewes, on the other hand, attributed to Empedocles "the conception of earth as a fourth element" and the "principle that the primary elements were four, viz.: Earth, Air, Fire and Water. Out of these all things proceed; all things are but the various ming-

¹*The Pythagorean Triangle.*

lings of these four. Nothing is there but a mingling and then a separation of the mingled . . ." Commenting on these theories Lewes here states (and I emphasize with italics the importance of his statement): "*Now, that this is an advance on the preceding conceptions [of Heraclitus and Anaxagoras in particular] will scarcely be denied. It bears indubitable evidence of being a later conception and a modification of its predecessors.*"¹

To the four so-called Empedoclean elements later philosophers (Xenocrates and Philolaus) added a fifth, the All-embracing ether, the Greek name for which Philolaus gives as *ὄληας*, *ὄλας*, etc.

To me it seems impossible that any one who has followed the evolution of Greek philosophical thought, as set forth by Lewes, can doubt the above-cited characterization of the doctrine of the four elements as the natural outgrowth of previous equally supposititious and artificial deductions.

At the same time I am aware that Prof. L. von Schroeder, of Dorpat, has attempted to prove that the five elements — earth, fire, water, air, and ether (Sanskrit *ākāṣā*) — already figure in the Brahmas, were taught in the Samkya philosophy of the Kapila, and were therefore known in India at least as far back as the seventh century, B.C. It is Professor von Schroeder's opinion that Pythagorean philosophy derived the elemental divisions, as well as its science of geometry and number, from India, and in support of the latter assertion he mentions the fact that Samkya, the name of the ancient Indian school of philosophy, signifies "number" and that its followers were therefore designated as "philosophers or teachers of numbers." It is for Greek scholars to establish whether the Pythagoreans derived their tenets from India or whether the doctrines of Pythagoras and Empedocles were carried from India to Greece at the time of the Greek invasion under Alexander the Great in 327 B.C.

However this may ultimately be decided, the remarkable and undeniable fact exists that in the ancient Mexican calendar we have a numerical system of marvelous ingenuity which, according to tradition, was devised as a means of introducing order in the community, as "a guide for human life." It is formed by a combination

¹Op. cit., vol. I, p. 95.

of odd and even numbers and is ruled by the number four, which is identified with the elements earth, air, fire, and water. What is more, as I have already pointed out, the symbols of the four elements (each in turn accompanied by the number four and in a square) are enclosed in the quadruplicate *ollin*, or sign for movement, which is carved in the center of the most remarkable monument of ancient Mexico.

Unprepared though one may be to face the possibility that the Mexican sculptor was imbued with abstract philosophical ideas, his choice of the *ollin* sign, typifying movement, to encompass the symbols of the four elements, unquestionably demonstrates that he associated his *ollin* with a meaning analogous to that assigned by Philolaus to the $\delta\lambda\alpha\varsigma$: "that which moves and carries the cosmos, which was composed of the four elements." Strange as it appears, it cannot be denied that the Mexican composite symbol calls to mind Plato's familiar dictum: "Thus there is a perpetual ebb and flow of the elements: the diversity of matter is the cause of constant motion." Much as we would naturally hesitate to invest the carved symbol with the whole significance of Plato's doctrine, one cannot but feel somewhat authorized to do so when one recalls the name *Tloquenauaque*: the "All-embracing One," which is recorded in Sahagun's Nahuatl text as that of the Supreme god of the foreign colonists. For this name is unquestionably identical in meaning with Plato's definition of God as "the One being comprising within Himself all other beings."¹

Besides, the calendar system of ancient Mexico, which incorporates what Lewes designates as "the Empedoclean elements," is a masterpiece of the Science of Numbers, the equal of which does not seem to have been produced by any known disciple of Pythagoras, who, however, idealized Number as the principle of order and the guide of human life.

The more I study this marvelously ingenious cyclical system and realize the advanced knowledge of mathematics and astronomy that it reveals, the less I can understand how it could have been planned without the aid of a cursive method of writing or of registering numbers. From what I have been able to learn, in twenty years of study of the ancient Mexicans, I also find it incompre-

¹ Lewes, op. cit., p. 263.

hensible how these unlettered people could have evolved independently such artificial correlated products of the human mind as the Tetraktos; its association with movement; a tetrarchical system of government; a science of numbers; a cyclical system based on a combination of odd and even numbers; a conception of the deity as "All-embracing," and the pyramid which, to me, seems to be a figuration of the Tetraktos, "the root of all things."

Were we dealing with any other part of the world but America, one would scarcely hesitate to claim that the presence, in Mexico, of the Tetraktos, of the cognate ideas which have been enumerated and of native testimony asserting their foreign origin, justifies the supposition of some form of contact with persons not only imbued with the theories of certain Greek philosophers, but bent on applying them practically.

But we have to do with a portion of the American continent which, though connected with the Old World by a great and comparatively smooth water-way, is generally considered too remote to have been visited by even those venturesome Mediterranean seafarers who, in precolumbian times, constantly braved the dangers of the Bay of Biscay and the northern seas.

I therefore merely present the foregoing data with my doubts and perplexities and the hope that they may receive the attention of those interested in the history of the origin of ancient Mexican civilization. It will be for them to meditate, as I have done, upon the striking contradiction between Brinton's dictum that, in America, "the simple theory of the four elements naturally presented itself to the primitive mind," and Lewes' conclusion that in Greece the identical theory, evolved after centuries of speculation, "bears indubitable evidence of being a later conception and modification of its predecessors." The idea that the Mexicans might, by mere chance, have formulated the theory without associating it with philosophical or cosmological speculations, is refuted by the positive facts that on the most important of native monuments the symbolized elements are enclosed in the sign for movement; that the deity was named "the All-embracing One," and that the four elements were incorporated in a cyclical system of marvelous ingenuity and perfection, which was used to regulate and control communal life under

the tetrarchical form of government. Will future text-books maintain that this whole group of cognate artificialities is a "universal trait of culture," an *Elementargedanke*, such as naturally presents itself to primitive man, and that its presence in ancient America merely proves that, in prehistoric times, this country produced its own school of philosophy, its mathematicians, its Pythagoras, and its Empedocles? To what natural causes will future autochthonists attribute the remarkable circumstance that the primitive aborigine of America hit upon the "Empedoclean elements" instead of the five equally spurious elements of ancient Chinese philosophy, viz., earth, water, fire, wood, and metal? Will the parallel development of the ancient Mexican and Greek tetraktos be cited as an instance of the psychic unity of mankind; or will it be recorded that the internal evidence furnished by the ancient Mexican civilization corroborates native tradition and reveals that its admirable artificial organization is attributable to a small band of learned foreign enthusiasts from over the sea who, at a remote and unknown period attempted, on American soil, what might well be described as a realization of the dream of Greek philosophy, namely, the establishment of "an ideal republic or polity" based on abstract philosophical, mathematical, and cosmological ideas?

In conclusion, the question: Does not Montezuma's evidence, in conjunction with the internal evidence supplied by the Mexican civilization itself, account for the incongruous elements it exhibits? Do they not explain the existence of positive proofs of highly advanced intellectual culture, such as the artificial, ingenious, calendric and governmental systems, along with barbarous and primitive superstitions and customs, an inconsistent combination which, years ago, was recognized and commented upon as follows by the eminent German anthropologist, Prof. Theodor Waitz?

"The Aztecs seem to have been the last offspring or heir of an extremely ancient and admirable civilization, *which it had no share in creating or developing and only imperfectly assimilated*. In its hands the ancient culture was rapidly deteriorating and becoming mixed with barbaric elements."¹

¹ *Anthropologie der Naturvölker*, Leipzig, 1864, part IV, p. 129.

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